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ABSTRACT

An investigation of the relationship between appearance and psychological development is presented in this paper. The central hypothesis of the investigation is that appearance is an important stimulus property in the psychological development of children, and as such has an effect on an individual's response to his environment as well as the environment's response to that individual. Children are thought of as possessing stimulus as well as response properties, and development is viewed as a function of the interactions of the child and the environment. The results of the investigation support a hypothesized relationship between stimulus properties and psychological development--that appearance, self-concept, peer acceptance, IQ, and report card grades are all related. The stimulus property is related to the performance dimension characterized by IQ, total report card, and total achievement scores. The stimulus qualities of a child are variables that not only relate empirically, but logically. The data received may be interpreted in the following way: attractive children tend to have higher IQ's, more friends, better self-concepts, and more favorable report cards than their less attractive peers. The variables, represented by the stimulus property dimension, are moderately correlated with the performance dimension. One of the limitations of this investigation is that the social status of the children was ignored. Other studies have shown achievement differences to exist within different social strata. It is possible that appearance and socioeconomic status are positively correlated to a high degree, and that the socioeconomic status should also be considered as part of the stimulus dimension. (MM)

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Attractiveness and Psychological Development

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A child's psychological development is a function of the quality and quantity of interactions with his environment. One factor hypothesized to control these aspects of interaction is the social stimulational properties of the child himself. As Bijou (1966) pointed out, a child's "physical appearance could well be either aversive or nonreinforcing to others, causing them to avoid him, to leave him as quickly as possible, or to behave toward him in an altogether indifferent manner." In Stigma: Notes on the Management of a Spoiled Identity, Goffman (1963) discussed the types of interactions which characterize the life experiences of individuals suffering from gross deformities and physical handicaps. Stigmatized persons perceive that, no matter how others may profess to accept them, people "are not ready to make contact on 'equal ground'" (p. 7). While persons suffering from gross deformities are the exception in everyday life, reactions toward them may differ only by degree to reactions to any individuals who are considered unattractive.

Considerable effort has been given to gross differences in physical appearance (Goffman, 1963; Richardson, 1969; Zimmerman, 1965), yet little has been devoted to the study of interactional opportunities and development of normally developing, non-handicapped children who are unattractive. If highly visible physical deviance can have deleterious effects on a child's psychological development through a reduced quality or quantity of interaction, then less highly visible physical deviance could operate through the same processes to produce differences in the child's interactional opportunities. Similarly, especially advantageous stimulus properties of a child, i.e., a high degree of physical attractiveness, could operate to produce an environment enriched in opportunities for favorable interactions and development.

It has been shown, for example, that male students were more likely to be influenced by physical appearance in a dating relationship (Berscheid, Dion, Walster and Walster, 1971; Byrne, Ervin and Lamberth, 1970; Walster, Aronson, Abrahams and Rottman, 1966), and that a hypothetical-attractive work partner was more desirable than an unattractive one (Stoebe, Insko, Thompson and Layton, 1970). Although persons stated that other characteristics such as intelligence and sincerity were more important in interpersonal relationships, Vreeland (1972) found that in real-life situations they did not focus on these qualities. Attractiveness has been shown to influence teachers' decisions about children as early as kindergarten (Dion, Berscheid and Walster, 1972). Clifford and Walster (1973) found that children with identical report cards were assumed to be more intelligent, more popular and more likely to go to college as a function of their perceived attractiveness. Ross and Salvia (1975) used identical psychological reports and manipulated the attractiveness of attached photographs. They found that teachers thought that unattractive children were more in need of special educational

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services. Moreover, teachers indicated a poorer prognosis for unattractive children in academic development and peer relationships.

While these experimental manipulations of attractiveness dealt primarily with hypothetical relationships, they did not offer evidence that attractive children are in fact perceived differently. Moreover, it has been suggested that appearance is only a superficial factor which operates primarily during the formative stages of a relationship (Adams and LaVoie, 1973). In correlational investigations examining the development of actual children, attractiveness does appear to have significant impact. Adams and Cohen (1974) have shown that teachers during the early part of the school year did interact differently with children they felt were attractive or unattractive. However, the evidence available from other studies suggests that the effect of appearance differences is consistent over the entire school year and that the relationship between appearance and actual performance is more than trivial. Salvia, Sheare and Algozzine (1975) have shown that, at midyear, self-concepts of attractive children were significantly higher than those of their unattractive peers. These same attractive children were also more accepted by their classmates. It has also been shown that attractive children receive significantly higher teacher ratings (i.e., report cards) at the end of the school year than do their unattractive counterparts (Salvia, Algozzine and Sheare, in press). It seems, then, that the stimulus property of physical appearance can bias judgments and produce differential effects in hypothetical, controlled studies as well as in investigations of real children.

The purpose of this paper is to further examine the relationship between appearance and psychological development. Specifically, it is hypothesized that appearance affects peer interactions as well as self-concept. The interactions and self-concept differences, either singly or in combination, affect learning whether subjectively or objectively measured. Finally, differential learning and performance affect further interactions and self-concept. The nature of this relationship is complex. Yet, it is similar to the "epigenetic" type of relationship which Lennenberg (1969) discusses with regard to language development in children; that is, the particular path a child takes at any epigenetic stage is related to a series of previously occurring events. Psychological development is viewed here as a series of interactional opportunities which are affected by the stimulus qualities of the youngster as well as the youngster's responsiveness (i.e., his performance) in the environment. To test such a relationship, it is necessary to use a correlational design and factor analysis rather than an experimental manipulation. Such a design enables the relationship between stimulus qualities and performance measures to be evaluated. It would seem that appearance and other stimulus properties (i.e., IQ) would group together in a meaningful way as a result of the hypothesized relationships between them.

Procedures

Subjects

Data collection procedures have been described in detail elsewhere (Salvia, Sheare and Algozzine, 1975; Salvia, Algozzine and Sheare, in press). Basically, the procedure involved identifying two subsamples of third, fourth and fifth grade children. One group (n=42) was consistently rated as attractive and another group (n=42) was consistently rated as unattractive.

Method

Each of the children had been previously administered the Piers-Harris Self Concept Scale (Piers and Harris, 1969), a peer acceptance measure (Salvia, Sheare and Algozzine, 1975), the Iowa Test of Basic Skills (Lindquist and Hieronymus, 1956) and recently had received report card grades from their teachers (Salvia, Algozzine and Sheare, in press). The Otis-Lennon Mental Ability Test (Otis and Lennon, 1970) was also available.* These data were viewed as representative of the dimensions of importance to this investigation. The scores for each child were intercorrelated and the coefficients were subjected to a factor analysis with oblique rotation.

Results

The original correlation matrix for the six variables is presented in Table 1. Significant coefficients between appearance and IQ, average report card grade, self-concept and peer acceptance are indicated. The relationships between the variables within the matrix were moderate to high. A principal axes factor solution was obtained. The initial factor pattern matrix indicated that two factors accounted for 68 per cent of the total variance (eigenvalues greater than 1.0). The two factors were rotated to an oblique solution which is represented in Table 2. There was moderate (.39) correlation between these rotated factors. Factor I (which accounted for 80 per cent of the common variance) contains the variables which reflect the stimulus quality of the youngster (i.e., variables which could be used to judge him) and Factor II (which accounted for 20 per cent of the common variance) contains measures which reflect a child's relative responsiveness to the school environment and the interaction of others toward him (i.e., "performance" measures). It is interesting to note that IQ and average report card grade have loaded on both factors indicating that each is representative of more than one of the theoretical dimensions obtained; the IQ scores and report card grades represent measures of judging individuals as well as being performance indicators.

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*Third grade Otis-Lennon scores were used for the fourth graders.

Table 1

Product-Moment Correlations for Six Predictor Variables.

Variable	App	IQ	Ach Total	Report Card Total	Self Concept
IQ	.33*				
Achievement Total	.14	.45*			
Report Card Total	.29*	.68*	.50*		
Self-Concept	.23*	.39*	.08	.38*	
Peer Acceptance	.37*	.42*	.06	.47*	.62*

*significant at .05 level (n=84)

Table 2

Factor Loading Pattern of Six Predictor Variables After Oblique Rotation.

Variables	Factor I Loading Pattern	Factor II Loading Pattern
Iowa Total	-.15	.71
Report Card Total	.29	.69
Mental Ability (IQ)	.29	.64
Appearance	.33	.15
Self Concept	.67	.01
Peer Acceptance	.97	-.11

*correlation between factors = .39

Discussion

The central hypothesis of this investigation was that appearance is an important stimulus property in the psychological development of children, and as such it has an effect on an individual's response to his environment as well as the environment's response to that individual. Children are thought of as possessing stimulus as well as response properties and development is viewed as a function of the interactions of the child and the environment.

The current investigation supports the hypothesized relationship between stimulus properties and psychological development; in fact, it illustrates that appearance, self-concept, peer acceptance, IQ and report card grades are all related. This hypothetical dimension of stimulus quality is related to the performance dimension characterized by IQ, total report card and total achievement scores. The stimulus qualities of a youngster are variables which not only relate empirically but also logically. For example, the data can be interpreted in the following way: attractive children tend to have higher IQ's, more friends, better self-concepts and more favorable report cards than their unattractive peers. These variables, represented by the stimulus quality dimension, are moderately correlated with the performance dimension.

Further support for the suggested relationship between stimulus qualities and psychological development was obtained by Dailey, Allen, Chinsky and Veit (1974).* They measured aides' feelings about retarded children in their wards and then observed various types of interactions. The "social-play," "positive-affective" and "total" interactions were correlated with the aides' "perceptions" of the residents' "likeability," "perceived mental age" and "attractiveness." This correlation matrix indicated that "residents perceived as attractive, likeable, and intellectually competent" were more likely to "experience a greater number of positive and social interactions," as well as receive a "greater amount of attention from aides" (p. 590); in fact, attractiveness showed "the greatest overall relationship with the attendants' behaviors" (p. 589). In examining this matrix it was evident that it contained variables which could be called "stimulus qualities" (i.e., attractiveness, perceived and objective mental age, likeability) and others which represented "performance" components. If these elements were factor analyzed, one would expect two factors to again represent the complete matrix and these dimensions would be expected to be correlated. The correlation matrix presented in Dailey et al. (1974) was factor analyzed (principal-axes solution) and the two factors with eigenvalues greater than 1.0 were then obliquely rotated. Table 3 presents the results of this analysis. The "performance" dimension is adequately represented by Factor I and the "stimulus quality" dimension by Factor II; again, there is moderate correlation between the two.

While the relationships represented in this paper are correlational, they do indicate the importance of stimulus properties of youngsters and

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*Dailey, W., Allen, G., Chinsky, J. and Veit, S. "Attendant Behavior and Attitudes Toward Institutionalized Retarded Children." American Journal of Mental Deficiency, 1974, 78, 586-591.

are supportive of hypothetical relationships posited here and elsewhere (Adams and LaVoie, 1973). It has not been determined whether IQ or report card or appearance differences are caused by or causes of stimulus quality differences, yet support has been given to the logical hypothesis stated earlier; that is, stimulus quality of a youngster is related to his psychological development as measured by elements along a performance dimension.

The problem is, of course, that correlational data can be interpreted in several cause-effect patterns (i.e., A causes B, B causes A, C causes A and B). At this point, it is sufficient and warranted to say that achievement differences may be dependent upon a multifaceted set of stimulus quality variables. Obviously, there are other stimulus properties of youngsters besides appearance which can influence interpersonal interactions. For example, Rise (1970) studied the effects of race on teachers' expectation, and Adams and LaVoie (1974) showed that perceived pupil conduct was a powerful determinant of hypothetical performance as judged by teachers. What seems to occur, in interpersonal contacts, is a hierarchical ordering of characteristics and their effects of particular groups of individuals. What has been shown here is that appearance should be given serious consideration as one of the predictors of differential interactional opportunities.

Table 3

Factor Loading Pattern of Correlation Matrix Presented by Dailey et al. (1974) after Oblique Rotation.*

Variable	Factor I Loading Pattern	Factor II Loading Pattern
Perceived Mental Age	.12	.86
Likeability	.10	.85
Objective Mental Age	-.13	.66
Attractiveness	.31	.49
Total Interactions	.80	.02
Positive Interactions	.90	.07
Social Interactions	.99	-.06

*correlation between factors = .46

One of the limitations of this investigation is that social status of the children has been ignored. Achievement differences have been found to exist within different social strata (Deutsch, Katz and Jensen, 1968). It is possible that appearance and socio-economic status (SES) are positively correlated to a high degree and that SES can also be

considered in the stimulus pool. This is an area for further research as is the additional teacher-pupil interaction analyses.

Conclusion

At this stage in the research, the causal relationship and psychological development is something more than speculation but less than fact. It is possible that appearance can be an intermediary variable within any heirarchy which might develop and which may never be completely controlled so that its effects can be reduced to a single dependent measure. It appears that future research will need to continue to try to bring some generality to the effects of appearance by testing and examining logical relationships which exist between appearance and development. The stimulus qualities of a person operate in the natural environment of the individual and they will undoubtedly need to be investigated in that setting for any real insight into cause-effect relationships to be gained.

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